

A Multi-Physics CFD Toolkit for Reentry Flows, Phase I

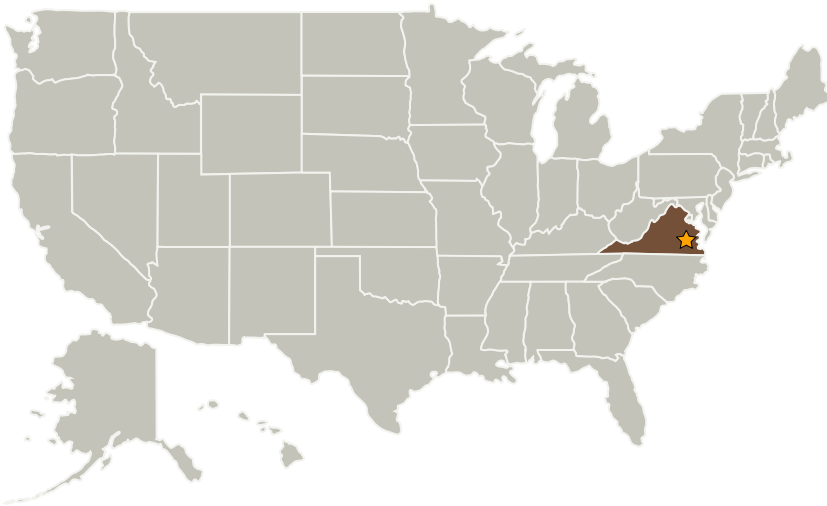
Completed Technology Project (2008 - 2008)



Project Introduction

AeroSoft proposes to develop a full featured CFD toolkit for analysis of the aerothermal environment and its effect on space vehicles. In Phase I, AeroSoft proposes to implement multi-component ablation along with material response into AeroSoft's structured and unstructured CFD solver GASP. In Phase I, GASP's internal thermal solver will be augmented to include the effects of ablation. In Phase II, AeroSoft proposes to implement radiation heat flux and radiation transport into GASP.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★ Langley Research Center (LaRC)	Lead Organization	NASA Center	Hampton, Virginia
AeroSoft, Inc.	Supporting Organization	Industry Small Disadvantaged Business (SDB)	Blacksburg, Virginia



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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Langley Research Center (LaRC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Primary U.S. Work Locations

Virginia

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

Michael P Applebaum

Technology Areas

Primary:

- TX09 Entry, Descent, and Landing
 - └ TX09.4 Vehicle Systems
 - └ TX09.4.5 Modeling and Simulation for EDL